

Technical Report 702

## Towards an Understanding of Army Enlistment Motivation Patterns

Rebecca M. Pliske, Timothy W. Ellg, & Richard M. Johnson

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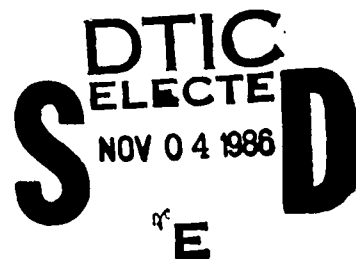


U. S. Army

Research Institute for the Behavioral and Social Sciences

January 1986

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## **Towards an Understanding of Army Enlistment Motivation Patterns**

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## FOREWORD

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This report summarizes recent findings from survey efforts undertaken by ARI in support of the Office of the Deputy Chief of Staff for Personnel and the U.S. Army Recruiting Command. This study presents information on psychological variables that influence young peoples' enlistment decisions and argues that policy makers should use models of the enlistment decision process that include both psychological and economic variables.



EDGAR M. JOHNSON  
Technical Director

# TOWARDS AN UNDERSTANDING OF ARMY ENLISTMENT MOTIVATION PATTERNS

## EXECUTIVE SUMMARY

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### Requirement:

In order to attract high-quality applicants, the Army spends a good deal of money on economic incentives such as the Veterans' Educational Assistance Program (VEAP). The military personnel planners who allocate the money for these incentives need to consider the important psychological and economic factors that underlie enlistment motivation patterns.

### Procedure:

The data presented in this report were collected as part of an ongoing survey effort conducted by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). New recruits were surveyed at U.S. Army reception stations across the country during the spring and summer months of 1982 and 1983. In addition to presenting cross-tabulated responses for survey questions on recruits' reasons for enlisting, principal components analyses were completed on these data.

### Results:

These analyses indicated that six distinct factors underlying recruits' enlistment motivation can be identified. They are as follows: self improvement, economic advancement, military service, time out, travel, and education money. The analyses suggest that recruits enlist in the Army for a variety of economic and psychological reasons.

### Utilization of Findings:

The information presented in this report will be used by military personnel planners who allocate money for various recruiting efforts. These data will also be added to a growing longitudinal data base used for modeling individual decision making and microeconomic forecast modeling.

# TOWARDS AN UNDERSTANDING OF ARMY ENLISTMENT MOTIVATION PATTERNS

## CONTENTS

	Page
SURVEY PROCEDURES AND SAMPLE . . . . .	2
RESULTS . . . . .	4
Forced-Choice Questions . . . . .	4
Multinomial Importance Ratings . . . . .	10
Internal Validity Check . . . . .	12
Principal Components Analyses . . . . .	16
SUMMARY AND CONCLUSIONS . . . . .	30
REFERENCES . . . . .	31
APPENDIX A . . . . .	32

## LIST OF TABLES

Table 1. Survey and population demographics for non-prior service, Regular Army recruits, 1982 and 1983 . . . . .	3
2. Comparison of most important reasons for enlistment 1979/1982/1983 . . . . .	6
3. Percent of recruits responding to forced-choice questions on most important reason for enlisting by AFQT category classification . . . . .	7
4. Percent of recruits responding to forced-choice questions on reason for enlisting by sex . . . . .	8
5. Percent of recruits responding to forced-choice questions on most important reason for enlisting by educational background of recruit . . . . .	9
6. Percent of recruits responding to multinomial questions on reasons for enlistment by AFQT category classification . . .	11
7. Percent of recruits responding to multinomial questions on reasons for enlistment by sex . . . . .	13
8. Percent of recruits responding to multinomial questions on reasons for enlistment by educational background . . . . .	14



## CONTENTS (Continued)

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	Page
Table 9. Percent of recruits responding to multinomial and forced-choice questions on reasons for enlistment . . . . .	15
10. Percent of recruits responding to forced-choice question on most important reason for enlistment by their plans after enlistment . . . . .	17
11. Percent of recruits responding to the forced-choice question on reasons for enlistment by their employment status when they enlisted . . . . .	18
12. Rotated factor loadings (oblique solution) . . . . .	20
13. Factor correlations for rotated factors . . . . .	23
14. Rotated factor loadings for higher order factor analysis . . . . .	24
15. Comparison of factor loadings (oblique rotation) for 1982 and 1983 . . . . .	25
16. Mean factor scores by demographic variables . . . . .	27
A-1. Rotated factor loadings from the orthogonal solution . . . . .	32
A-2. Factor loadings (oblique rotation), number of factors restricted to three . . . . .	33

## TOWARDS AN UNDERSTANDING OF ARMY ENLISTMENT MOTIVATION PATTERNS

Our nation's Armed Services are faced with the continuing challenge of attracting large numbers of qualified young men and women. Since the introduction of the all volunteer force, the Armed Services have had to compete with private sector employers and educational institutions for these young people. This competition promises to become even more intense in the near future because the number of Service-eligible youth is declining while the manpower needs of the Services are growing.

In order to attract high quality applicants, the Services spend a good deal of money on economic incentives such as increased levels of compensation and on special programs such as the Veterans' Educational Assistance Program (VEAP). The military personnel planners who allocate the monies for these recruiting efforts rely to a large extent on economic models of military accessions. A common procedure for examining the effects of enlistment incentives on military accessions is to use some type of econometric modeling. A crucial assumption of such models is that the equations estimated are properly "specified," that is, that the equations include all variables that may have a major influence on the outcome of interest. If important variables are omitted from the equations, then the estimates of the effect of the variables that are included may be seriously biased.

Economic models of enlistment tend to focus on pecuniary factors such as pay, benefits, and bonuses that can be directly altered by policy makers and generally include other "economic" factors such as the unemployment rate, minimum-wage levels, and recruiting resources. Recently, some economists have begun to include "non-economic" variables in their models. For example, Dale and Gilroy (1984) have shown that a non-economic variable measuring recruiter effort had a significant effect on the number of Army enlistments.

Although economic models provide useful information to policy makers, we agree with Faris (1984) who claims that purely economic models are insufficient to account for military recruiting patterns. Faris reports data on the probability of reenlistment intentions of enlisted personnel that indicate two non-economic variables are significant factors in the reenlistment decision. One factor reflected the individual's relative satisfaction with the "more immediate features of the military work role" and the other factor reflected "attachment to the broader role of the military." Faris presents data that indicate that non-economic factors are also important for the retention of junior officers.

The purpose of this report is to summarize recent findings from a survey administered to new recruits entering the US Army that provides information about Army enlistment motivation patterns. We hypothesized that today's youth are attracted to the military service for both economic and non-economic reasons and our results generally support this hypothesis. In this report, we

present information on psychological variables that influence young peoples' enlistment decisions and we argue that policy makers should use models of the enlistment decision process that include both psychological and economic variables.

The data presented in this report were collected as part of an ongoing survey effort conducted by the US Army Research Institute for the Behavioral and Social Sciences (ARI). In response to a request from the Department of the Army, ARI developed a Survey of Personnel Entering the Army to answer questions concerning the demographics and enlistment motivation of new recruits. The structure of the current survey is based in part on the 1979 Department of Defense Survey of Personnel Entering Military Service (Doering, Grissmer, and Morse, 1980a, 1980b).

The ARI survey was first administered in the spring and summer of 1982. A revised form of the ARI survey was administered in the spring and summer of 1983. The focus of this report will be on the 1983 survey data that address the issue of why young people decide to enlist in the Army. Some comparisons to relevant data collected in the 1982 survey will also be included. Elig (1983) summarizes the survey design and sampling procedure, provides general technical information about the questionnaires, and describes the data bases in detail. Only a brief summary of this information is provided below.

#### SURVEY PROCEDURES AND SAMPLE

New recruits were surveyed at US Army reception stations across the country during the spring and summer months of 1982 and 1983. An effort was made to minimize sampling bias by sampling all recruits without prior military service (NPS recruits). Although data was collected from recruits entering the Army Reserves and the Army National Guard, this report will only present data collected from recruits entering the Regular Army (RA recruits). Individual questionnaires were matched with accession records taken from the Military Entrance Processing Station Reporting System (MEPRS) to provide important demographic information such as Armed Forces Qualification Test (AFQT) scores. Matching MEPRS records were found for 6,318 NPS RA recruits in the 1982 sample and 8,605 NPS RA recruits in the 1983 sample. The actual number of cases for some of the analyses presented in this report is smaller than the total sample because some items did not appear in all of the alternate forms of the survey questionnaire.

Table 1 presents demographic data on several variables that may influence recruits' responses to survey questions for the 1982 and 1983 samples of new recruits; data on the total population of new recruits are included for comparison purposes. The demographics from the ARI surveys indicate that the samples are fairly representative of the population of new Army recruits in 1982 and 1983. However, the 1982 and 1983 samples may be somewhat biased because they were both administered during the last half of the fiscal year.

Table 1

Survey and population demographics for non-prior service, Regular Army recruits, 1982 and 1983.

	82 Sample	82 Pop.	83 Sample	83 Pop.		82 Sample	82 Pop.	83 Sample	83 Pop.
<u>AFQT</u>					<u>Region</u>				
I&II	31.0	31.9	36.0	36.5	NE	20.9	22.3	20.1	22.2
IIIA	18.9	21.1	27.8	24.9	SE	25.1	23.7	21.0	22.3
IIIB	26.6	27.8	30.4	26.6	SW	15.2	13.3	16.4	27.3
IV	23.5	19.2	5.8	12.0	MW	26.3	26.1	27.4	13.6
					West	12.5	14.6	15.1	14.6
<u>Ethnic Group</u>					<u>Term of Enlistment</u>				
White	65.9	71.0	73.8	74.0	2	8.5	6.0	7.7	6.9
Black	26.4	24.6	19.6	21.8	3	51.0	56.9	56.2	57.9
Other	7.7	4.4	6.6	4.2	4	40.5	37.1	36.1	35.2
<u>Education</u>					<u>Sex</u>				
HSDG	91.9	86.0	83.9	87.6	Male	91.0	87.0	90.4	87.6
NHSG	8.1	14.0	16.1	12.4	Female	9.0	13.0	9.6	12.4
<u>Age at Contracting</u>									
17	33.1	9.8	39.9	8.2					
18	25.4	32.4	22.4	32.3					
19	13.0	19.4	12.4	20.4					
20	8.8	11.3	7.4	11.7					
21-23	12.4	16.5	11.0	16.9					
24 Or More	7.3	10.6	6.9	10.5					

This potential seasonal bias is attenuated by the fact that many of the recruits have signed enlistment contracts throughout the preceeding year under the Army's Delayed Entry Program (DEP). The results of our accession samples are best interpreted as indicators of the relative strength of motivations for enlistment rather than definitive percentages of accessions motivated in specific ways.

## RESULTS

New recruits' reasons for enlisting in the Army were assessed using two different types of question formats that we will refer to as the forced-choice questions and the multinomial questions. The forced-choice questions asked recruits to pick their most important reason for enlistment from a list of ten alternative reasons. Although the forced-choice format has been the traditional way of measuring reasons for enlistment and is useful for cross-year comparisons, it is psychometrically weak. For example, Boesel and Richards (1982) noted how sensitive it is to order effects. Furthermore, as discussed by Elig, Johnson, Gade, and Hertzbach (1984), forced-choice questions are inflexible because they cannot be changed to include other possible reasons without destroying comparability. Forced-choice items are also insensitive to the probable mixed nature of enlistment motives. Most recruits probably have many reasons for enlistment and are not necessarily clear on exactly why they enlisted.

The multinomial questions introduced in the 1982 survey make enlistment motivation amenable to the most powerful statistical tools. For these questions, recruits were asked to make importance ratings of 15 different reasons which may have caused them to enlist. The use of multinomial importance ratings was expanded in the 1983 survey to include up to 28 different reasons in some forms of the survey. Assessing recruits' reasons for enlistment with alternative formats not only allows for a variety of statistical analyses to be conducted, it also provides a check for the internal validity of the information obtained in the questionnaire.

### Forced-Choice Questions

Tables 2-5 present the data from the forced-choice questions pertaining to reasons for enlistment. Recruits were given two separate lists of reasons and were asked "which of these reasons is your MOST IMPORTANT REASON for enlisting" from each list. The two lists were identical except that in List 2 "chance to better myself" replaced "I want to travel." The two alternative lists of reasons were included for comparison purposes with similar forced-choice questions used in previous surveys (e.g., Doering et al., 1980a, 1980b).

Results presented in Table 2 show how reasons for enlistment have changed since 1979. As can be seen in columns one and two of Table 2, the biggest changes in self-reports of motivation from 1979 to 1982 are decreases in motivation for a "chance to better myself" and "skill training" and increases in motivation for "money to attend college" and for "escape from unemployment." "Chance to better myself" and "skill training" also decreased from 1982 to 1983 (columns two and three), while the only notable increase from 1982 to 1983 is in motivation to earn more money.

Differences in recruits' responses to the forced-choice questions were observed for several different demographic variables. Tables 3-5 present the data according to AFQT category classification, sex, and educational background of the recruits. The data in Table 3 indicate that although there is a statistically significant difference in self-reports of motivation for enlistment for recruits of different AFQT categories ( $p < .01$ ), there is a great deal of similarity among the recruits. Not surprisingly, recruits with higher AFQT scores (CAT Is and IIs) report that the most important reason for their enlistment was to obtain money to attend college more often than recruits in the lower AFQT categories. Recruits from the lowest AFQT categories (CAT IVA/IVB) were more likely to report that the most important reason for their enlistment was that they were unemployed as compared to recruits from the higher AFQT categories.

Differences in recruits' responses according to sex are shown in Table 4. It is important to note that the differences between the sexes shown in Table 4 may be confounded somewhat with other demographic factors because enlistment standards are more strict for females (no CAT IV females or females without a high school education were admitted in 1983). However, log linear analyses including both sex and AFQT as categorical variables indicated that the 3-way interaction between sex, AFQT and response to the test question was not statistically significant ( $p < .01$ ), but the sex differences are statistically significant ( $p > .01$ ). Females are more likely to report "chance to better myself" and "money for college education" as their most important reason for enlisting; whereas males are more likely to report "service to country" and "unemployment" as their most important reasons.

Table 5 presents the data from the forced-choice questions according to educational background of the recruits. The differences shown in Table 5 are statistically significant ( $p < .01$ ). Recruits with some post-high school education report "money for college" as their most important reason for enlisting more frequently than recruits with high school educations or non-high school graduates. The data in Table 5 also indicate that recruits with some post-high school education are less likely to report "service to country" as the most important reason for enlistment as compared to recruits who do not have any post-high school education.

Table 2

Comparison of most important reasons for enlistment 1979/1982/1983.

Which one of these reasons is your most important reason for enlisting?	1979 DoD Survey of April Contracts	ARI Survey of New Recruits*			
		List 1		List 2	
		1982	1983	1982	1983
Chance to better myself (not measured in July-Aug 82)	39	30	25	--	--
To get trained in a skill	25	22	19	35	30
Money for a college education	7	15	16	20	17
To serve my country	10	9	9	10	12
I was unemployed	4	10	9	10	10
To prove that I can make it	3	6	7	9	10
To be away from home on my own	5	4	5	5	7
Earn more money	1	2	7	4	6
Travel (not measured in May-June 82)	4	--	--	4	4
To get away from a personal problem	1	1	2	2	2
Family tradition to serve	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>
	100%	100%	100%	100%	100%

\*Regular Army, non-prior service enlistments only

Table 3

Percent of recruits responding to forced-choice questions on most important reason for enlisting by AFQT category classification.

Reason for enlistment	AFQT Category			
	I & II (N=1426)	IIIA (N=945)	IIIB (N=1315)	IVA/IVB (N=292)
<u>List 1</u>				
To get trained in a skill	23.5	27.2	34.4	28.8
Money for college education	30.8	21.1	8.7	10.6
To serve my country	11.6	12.4	10.7	9.6
I was unemployed	9.5	9.6	12.5	22.3
To prove that I can make it	7.4	8.4	10.5	9.2
To be away from home on my own	5.3	8.1	7.4	8.2
Earn more money	5.3	5.4	7.7	5.8
Travel	4.1	3.7	5.2	3.4
To get away from personal problem	1.6	2.3	1.5	2.1
Family tradition to serve	1.0	1.8	1.4	1.0
	100%	100%	100%	100%
<u>List 2</u>	(N=1432)	(N=950)	(N=1327)	(N=294)
Chance to better myself	21.6	18.9	25.5	24.8
To get trained in a skill	16.8	19.5	21.8	19.4
Money for college education	27.3	19.6	11.1	9.5
To serve my country	9.6	9.1	9.3	6.8
I was unemployed	6.1	8.3	9.0	11.9
To prove that I can make it	5.7	6.6	7.1	10.2
To be away from home on my own	4.7	6.1	5.0	6.8
Earn more money	5.7	8.4	7.3	7.1
To get away from personal problem	1.7	2.0	1.8	2.4
Family tradition to serve	.8	1.5	2.0	1.0
	100%	100%	100%	100%



Table 4

Percent of recruits responding to forced-choice questions on most important reason for enlisting by sex.

	Sex	
	Male (N=4857)	Female (N=522)
Reasons for Enlistment		
<u>List 1</u>		
To get trained in a skill	29.2	30.5
Money for college education	17.1	24.9
To serve my country	11.5	7.5
I was unemployed	12.2	5.4
To prove that I can make it	9.5	11.7
To be away from home on my own	6.6	7.5
Earn more money	6.0	3.8
Travel	4.4	4.2
To get away from personal problem	1.9	4.2
Family tradition to serve	1.5	0.4
	100%	100%
	(N=4878)	(N=524)
<u>List 2</u>		
Chance to better myself	23.6	30.5
To get trained in a skill	19.5	19.8
Money for college education	16.6	20.4
To serve my country	9.3	5.9
I was unemployed	8.3	4.0
To prove that I can make it	7.2	6.9
To be away from home on my own	5.3	4.0
Earn more money	6.9	4.2
To get away from personal problem	1.9	3.6
Family tradition to serve	1.4	0.6
	100%	100%

Table 5

Percent of recruits responding to forced-choice questions on most important reason for enlisting by educational background of recruit.

Reason for enlistment	Educational Background		
	Post High School (N=1060)	High School Diploma Grad (N=3505)	Non-High School Grad (N=885)
<u>List 1</u>			
To get trained in a skill	24.2	29.8	32.8
Money for college education	27.5	17.9	5.9
To serve my country	9.1	11.7	12.2
I was unemployed	11.7	10.3	15.6
To prove that I can make it	7.4	9.8	12.8
To be away from home on my own	5.5	7.2	5.6
Earn more money	6.3	5.6	5.5
Travel	4.3	4.4	5.0
To get away from personal problem	3.1	2.0	2.4
Family tradition to serve	1.0	1.3	2.3
	<u>100%</u>	<u>100%</u>	<u>100%</u>
	(N=1061)	(N=3533)	(N=881)
<u>List 2</u>			
Chance to better myself	24.8	22.8	28.8
To get trained in a skill	16.9	20.0	20.5
Money for college education	23.2	17.7	6.7
To serve my country	7.1	9.4	9.6
I was unemployed	8.6	7.4	9.6
To prove that I can make it	5.9	7.0	9.4
To be away from home on my own	3.7	5.7	5.2
Earn more money	5.6	7.1	6.5
To get away from personal problem	3.3	1.7	1.9
Family tradition to serve	1.0	1.3	1.6
	<u>100%</u>	<u>100%</u>	<u>100%</u>

In general, the data from the forced-choice questions on the most important reason for enlistment indicate that recruits frequently report that the most important reason for their enlistment was "a chance to better myself." Because "skill training" has declined with "chance" over the years and because "skill training" gets the biggest increase when "chance" is not asked (See Tables 2-5), "chance to better myself" is often interpreted as economic self-improvement. Support for this interpretation comes from order-effect research that found that "skill training" is the most frequently selected item when it is asked before "chance" while "chance to better myself" is the most frequently selected item when asked before "skill" (Boesel and Richards, 1982). An alternative explanation is that "chance to better myself" is just a nebulous phrase that sounds good and is all things to all people. However, we hypothesized a third alternative; we believe "chance to better myself" does have an exact, non-economic meaning. By using the powerful analyses available for our multinomial measures we feel we are on the track of finding that meaning. However, before discussing these analyses, we will briefly summarize the cross tabulations of responses to the multinomial questions and some additional cross tabulations used to check the internal validity of our survey data.

#### Multinomial Importance Ratings

Recruits were asked to rate the importance of 28 reasons for enlisting on a four-point scale. For each reason they indicated whether this reason was "not at all important," "somewhat important," "very important," or "I would not have enlisted except for this reason." The data for the reasons that received the highest importance ratings are shown in Tables 6--8. The numbers in the tables were obtained by combining the percent of respondents who indicated that reason was "very important" with the percent who indicated "I would not have enlisted except for this reason." As with the forced-choice questions, differences in responses were found for different demographic breakdowns of the data. There are so many subtle differences in the data that discussion of all of them is impractical; some of the larger differences will be summarized below.

Table 6 shows the percent of respondents according to AFQT category. Although there appears to be a good deal of similarity in the responses of the recruits from the different AFQT categories, chi square tests indicated that there are statistically significant differences for most of the reasons ( $p < .01$ ). "Chance to better myself" was rated as being very important by all categories of recruits, but there is a slight tendency for the recruits from the lower AFQT categories to give higher importance ratings to this factor as compared to recruits from the higher AFQT categories. Importance ratings of "skill training opportunities" was also moderated by AFQT category; recruits from the lower AFQT categories are more likely to rate skill training as being very important than are recruits from the higher AFQT categories. The recruits from AFQT categories I and II were more likely to indicate that money for college education was very important than recruits from lower AFQT categories.

Table 6

Percent of recruits responding to multinomial questions on reasons for enlistment by AFQT category classification.

Reasons for enlistment	AFQT Category			
	I & II	IIIA	IIIB	IVA/IVB
*Chance to better myself	67.5 (2226) <sup>+</sup>	69.6 (1461)	70.7 (2003)	71.0 (456)
*Skill training opportunity	48.0 (2226)	56.2 (1453)	62.1 (2000)	62.3 (453)
*Money for college education	62.1 (2224)	55.4 (1458)	36.7 (1998)	37.3 (451)
*Learn to be responsible mature	37.7 (1457)	43.2 (968)	49.5 (1367)	50.8 (303)
*Serve my country	44.3 (2224)	45.7 (1466)	45.5 (2005)	47.6 (454)
Become more self reliant	39.7 (1456)	42.1 (966)	44.4 (1372)	47.4 (304)
Physical training	41.0 (2221)	41.0 (1467)	39.5 (2001)	43.5 (457)
*Prove I can make it	28.8 (1455)	33.9 (966)	36.0 (1359)	38.0 (303)
*Money for votech/business education	34.9 (2225)	36.6 (1464)	27.4 (1996)	32.3 (455)
*Earn more money	20.5 (2218)	25.3 (1460)	28.0 (2001)	29.1 (450)

\*  $p < .01$ .

<sup>+</sup> Number in parentheses represents sample size.

The percent of recruits who indicated these reasons were very important are presented by sex in Table 7. As with the forced-choice questions, the reader should be cautioned that other factors may contribute to the sex differences presented in Table 7 because female recruits must have a high school education and be classified as Cat 3B or above on AFQT to be eligible for enlistment. (However, separate log linear analyses, one including both sex and AFQT as categorical variables, and another including sex and educational background, indicated no statistically significant 3-way interactions.) In general, although female recruits rated all the reasons presented in Table 7 as being more important than male recruits, the relative importance of the reasons is similar for both males and females. That is, "chance to better myself" had the highest percent of recruits indicating this was a very important reason for both males and females, and "skill training" has the next highest percent. Chi square tests indicated that there are statistically significant differences between male and female recruits for all of the reasons listed in Table 7 except "physical training".

Table 8 presents the percent of recruits responding to these questions based on educational background. Chi square tests indicated that there are significant differences for all of the reasons listed in Table 8. "Chance to better myself" was rated as being very important by all the recruits, but this was especially true for high school graduates. "Skill training" appears to be less important for recruits with post high school education and "college money" is less important for non-high school graduates.

#### Internal Validity Check

By asking essentially the same questions in alternative formats, it is possible to assess the internal validity of our survey data by doing some simple cross tabulations. The data in Table 9 represent the percent of recruits who responded "very important" or "would not have enlisted except for this reason" when they were asked to make importance ratings of these reasons tabulated according to their responses to the forced-choice question on reasons for enlistment (List 2). For example, column one presents data from those recruits who chose "chance to better myself" from the forced-choice list; 83.3% indicated "chance to better myself" was "very important" or "I would not have enlisted except for this reason" when asked to rate the importance of this factor when it was presented in the multinomial format; 73.7% of these individuals rated skill training as "very important" or "I would not have enlisted except for this reason", and so on. The data along the diagonal in Table 9 indicate there is a great deal of consistency in recruits' responses to the two types of question format. The other data presented in the table illustrate that there are indeed multiple reasons underlying recruits' motivation to enlist.

Table 7

Percent of recruits responding to multinomial questions on reasons for enlistment by sex.

<u>Reasons for enlistment</u>	<u>Sex</u>	
	<u>Male</u>	<u>Female</u>
* Chance to better myself	70.0 (7462) <sup>+</sup>	76.0 (799)
* Skill training opportunities	55.7 (7445)	62.5 (798)
* Money for college education	46.6 (7444)	63.3 (797)
* Learn to be responsible	44.7 (4980)	55.7 (529)
* Serve my country	45.9 (7454)	40.4 (799)
* Become more self reliant	43.4 (4987)	56.0 (527)
Physical training	41.3 (7468)	42.4 (800)
* Prove I can make it	33.0 (4969)	38.2 (529)
* Money for votech/business education	31.2 (7453)	38.8 (798)
* Earn more money	24.3 (7436)	26.9 (800)

---

\*  $p < .01$

+ Number in parentheses represents sample size

Table 8

Percent of recruits responding to multinomial questions on reasons for enlistment by educational background.

	Educational Background		
	<u>Post High School</u>	<u>High School Diploma Grad</u>	<u>Non-High School Grad</u>
<u>Reasons for Enlistment</u>			
* Chance to better myself	68.2 (1655) <sup>+</sup>	70.3 (5398)	63.6 (1322)
* Skill training opportunities	50.2 (1655)	57.9 (5388)	55.7 (1319)
* Money for college education	61.1 (1658)	49.0 (5381)	28.5 (1319)
* Learn to be responsible mature	38.9 (1081)	47.0 (3613)	48.2 (891)
* Serve my country	39.0 (1660)	46.4 (5401)	48.4 (1311)
* Become more self reliant	41.9 (1083)	44.2 (3613)	48.0 (895)
* Physical training	42.0 (1655)	40.7 (5403)	43.6 (1328)
* Prove I can make it	28.8 (1082)	34.7 (3601)	32.7 (892)
* Money for votech/business education	36.3 (1658)	32.5 (5389)	124.3 (1319)
* Earn more money	23.6 (1649)	25.5 (5390)	22.3 (1313)

---

\*  $p < .01$

+ Number in parentheses represents sample size

Table 9

Percent of recruits responding to multinomial and forced-choice questions on reasons for enlistment.

	Forced-choice format				
	<u>Better Myself</u>	<u>Skill training</u>	<u>College Money</u>	<u>Serve My Country</u>	<u>Unemployed</u>
<u>Multinomial format</u>					
Better Myself	83.3*	53.7	40.0	46.2	20.2
Skill Training	73.7	78.7	45.0	40.5	24.3
College Money	64.2	53.7	88.1	35.1	33.3
Serve My Country	70.9	34.7	34.6	83.4	12.3
Unemployed	50.4	54.9	34.5	36.6	72.8

---

\*Numbers in table reflect percent of recruits responding "I would not have enlisted except for this reason" combined with the percent of recruits responding "very important."



The survey included many other questions in addition to the questions on reasons for enlistment. In a further attempt to validate our data, we tabulated recruits' responses to the forced-choice question on reasons for enlistment with a question that asked them about their plans after enlistment. These results, which are shown in Table 10, indicate that recruits' self-reports of enlistment motivation are consistent with their self-report of plans after enlistment. For example, 45.7 percent of the recruits who plan to go on to college after their enlistment, chose "money for college" as their most important reason for enlistment. Interestingly, 17.1 percent of the recruits who plan a career in the army, chose "service to country" as the most important reason for enlisting. It is important to note that 37 percent of the respondents (n=2,038) indicated they "did not know" what their plans after enlistment would be.

We also cross-tabulated the responses to the forced-choice question on reasons for enlistment with a question that asked recruits to report their employment status when they enlisted. These data are shown in Table 11. As expected, recruits who indicated they were unemployed at the time of enlistment, were much more likely to choose "I was unemployed" as the most important reason for enlistment as compared to recruits who were employed or attending school at the time of enlistment. Interestingly, the pattern of responses to the forced-choice question on reasons for enlistment for recruits reporting they were employed full time is very similar to the pattern of responses for recruits reporting they were attending school.

#### Principal Components Analyses

As discussed previously, recruits have multiple reasons for wanting to enlist in the Army and in order to assess the relative importance of these multiple reasons we asked the recruits to rate the importance of 28 different reasons. Many of these reasons were similar in nature. For example, recruits were asked to rate "I enlisted to become a better individual," and "I enlisted to learn to be a responsible, mature person." Obtaining responses on sets of similar questions permits the use of sophisticated statistical techniques such as principal components analysis (PCA) that can reveal a great deal about the underlying processes that may have generated the observed responses to this set of questions.

Recruits' importance ratings of the 28 reasons for enlistment were analysed using PCA to reduce the 28 reasons to a smaller set. Principal components analysis groups similar reasons together into "factors" (or components) according to the degree of correlation between the reasons. After the factors are "extracted" from the correlations between the separate reasons, the factors are "rotated" to improve the interpretability of the factors.

Table 10

Percent of recruits responding to forced-choice question on most important reason for enlistment by their plans after enlistment.

	Plans After Enlistment					
	Civilian Employment (686)*	College (1027)	Vo/tech (243)	Reenlist (530)	Career Army (977)	Don't Know (2038)
<u>Reason for enlistment</u>						
Chance to better myself	17.8	18.3	14.4	29.2	30.2	26.0
To get trained in a skill	27.6	11.4	18.5	18.5	18.9	21.2
Money for college education	6.7	45.7	21.0	8.9	6.9	12.0
To serve my country	6.6	4.5	7.8	10.9	17.1	7.8
I was unemployed	15.9	3.9	9.5	7.0	6.8	8.2
To prove that I can make it	6.9	4.1	7.4	9.1	7.1	8.4
To be away from home on my own	5.5	5.0	6.6	6.2	3.5	5.8
Earn more money	8.9	4.9	9.5	6.4	5.7	7.3
To get away from personal problem	3.1	1.6	4.5	2.3	1.2	1.9
Family tradition to serve	<u>1.2</u> 100%	<u>.8</u> 100%	<u>.8</u> 100%	<u>1.5</u> 100%	<u>2.7</u> 100%	<u>1.0</u> 100%

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\*Sample Size.

Table 11

Percent of recruits responding to the forced-choice question on reasons for enlistment by their employment status when they enlisted.

	Employment Status						
	<u>Full Time</u>	<u>Part Time</u>	<u>Laid Off</u>	<u>Fired</u>	<u>Quit</u>	<u>Looking 1st Job</u>	<u>Attending School</u>
	(518)*	(575)	(286)	(69)	(296)	(129)	(639)
<u>Reason for enlistment</u>							
Chance to better myself	24	25	24	29	26	21	22
To get trained in a skill	19	21	19	17	22	18	18
Money for college education	18	17	15	12	14	12	21
To serve my country	11	8	7	4	7	5	11
I was unemployed	4	4	16	13	11	23	7
To prove that I can make it	8	7	7	7	7	10	8
To be away from home on my own	7	8	3	1	4	3	4
Earn more money	6	7	7	6	5	6	7
To get away form personal problems	2	1	1	7	3	2	2
Family tradition to serve	1	1	1	3	2	0	2

---

\*Sample size.

We were particularly interested in exploring the interpretability of the "chance to better myself" reason. As indicated in the discussion of the forced-choice and multinomial questions, recruits tend to pick this reason as their most important reason for enlisting. It is not clear, however, whether this reason refers to economic improvement such as "earn more money" and "get trained in a skill" or self improvement such as "become a better individual." By using PCA we can determine whether "chance to better myself" combines with economic reasons such as "earn more money" or with self-improvement reasons such as "become a responsible, mature individual." We predicted that the "chance to better myself" reason would combine with other non-economic reasons to form a "self improvement" factor. Confirmation of this hypothesis would support our hypothesis that recruits are motivated to join the Army for both economic and non-economic reasons. Although we recognize that "economic" factors such as "earn more money" or "get trained in a skill" could also be considered as ways to improve one's self, we believe these motivational factors can be distinguished from factors that are more directly related to personal growth and maturity, such as "become a responsible, mature individual."

The principal components analysis indicated that there are six distinct factors underlying the 28 reasons for enlistment rated in the survey. [We restricted the eigenvalues to 1.0 or more to ensure the stability of the factors.] Table 12 shows the results of rotating the factors and allowing the factors to be correlated (a direct quartimin oblique solution). The numbers presented under the factor columns in Table 12, called "factor loadings," indicate the strength of the relationship between the individual reasons listed in the left most column and the factors. Reasons loading positively on the same factor tend to be important to the same people; the larger the factor loading, the stronger the relationship between the individual reason and that factor. The individual reasons in Table 12 have been ordered according to the size of their factor loadings. Reasons that load on more than one factor appear towards the bottom of the table. Factor loadings smaller than .25 are generally not interpreted and have been removed. The right most column of the table, labeled "shared variance" indicates how well all of the factors considered together account for the variability for that individual reason. These numbers provide an indication of how well the PCA "fits" the data. A general rule of thumb is that the individual variables (reasons in our analysis) should have a shared variance estimate of at least .30.

The results of the factor analysis are very interesting. We have labeled the first factor in the solution "Self improvement". It includes "chance to better myself" and several other reasons which are related to self improvement such as "learn to be a responsible, mature individual," "become more self reliant," "become a better individual," "need for discipline," "leadership training," and "physical training."

The second factor in the solution is an economic factor, which we labeled "Economic advancement." It includes reasons such as "obtain a better job when I get out," "I was unemployed," "earn more money," and "obtain skill training."

Table 12

## Rotated factor loadings (oblique solution)

Reasons for Enlistment	Factors					
	I Self Improvement	II Economic Advancement	III Military Service	IV Time Out	V Travel	VI Education Money
Learn to be responsible	0.815	--	--	--	--	--
Become more self reliant	0.771	--	--	--	--	--
Become better individual	0.765	--	--	--	--	--
Need for discipline	0.685	--	--	0.301	--	--
Leadership training	0.550	--	0.283	--	--	--
Obtain better job	--	0.652	--	--	--	--
I was unemployed	--	0.600	--	--	--	--
Earn more money	--	0.564	--	--	--	--
Skill training	--	0.532	--	--	--	--
Retirement benefits	--	0.306	0.656	--	--	--
Fringe benefits	--	0.412	0.528	--	--	--
Join old friends	--	--	--	0.699	--	--
Escape personal problems	--	--	--	0.538	--	--
Family tradition	--	--	0.287	0.536	--	--
Get away on my own	--	--	--	--	0.745	--
Travel	--	--	--	--	0.693	--
Money for college	--	--	--	--	--	0.863
Money for votech/ business school	--	--	--	--	--	0.793
Prove myself	0.393	--	--	--	0.333	--
Take time out	--	--	--	0.370	0.326	--
Chance to better myself	0.494	--	-0.280	-0.390	--	--
Make new friends	0.358	--	--	--	--	--
Shoot guns	--	--	--	--	--	--
Be a soldier	0.350	-0.293	0.355	0.332	0.286	--
Physical training	0.482	--	0.491	--	--	--
See what military is like	0.362	--	--	--	--	--
Get respect	0.378	--	--	--	0.269	--
Serve my country	0.324	-0.254	0.473	--	--	--
Variance accounted for:	6.013	2.112	1.930	1.484	1.304	1.056

The third factor, which we have labeled "Military service," consists of reasons that generally deal with the desirability of military life in general. For example, it includes "retirement benefits," "fringe benefits," "be a soldier," and "serve my country."

Factor IV was the most difficult factor to name because several different types of reasons loaded on this factor. We have labeled it "Time out" because this is consistent with most of the reasons that loaded on this factor that include the "take time out to decide future plans" reason. Other reasons that had high loadings include "join old friends," "escape personal problems," and "family tradition to serve." Interestingly, "chance to better myself" has a fairly high negative loading on this factor.

The last two factors were readily interpretable. The fifth factor has been labeled "Travel." It includes "chance to travel," and "get away from home on my own." The sixth factor has been labeled "education money;" it includes "money for college education," and "money for votech or business education."

The stability of the PCA solution was tested by splitting the total sample of recruits who had made importance ratings of all 28 reasons into two samples according to the last digit of their social security number (odd versus even) and then conducting separate PCAs. These solutions were almost identical to the solution presented in Table 12. Another analysis was also done on the total sample in which the factors were rotated such that they remained uncorrelated (an orthogonal, varimax solution) and the results of this analysis appear in Table A-1 in Appendix A. Very similar results were obtained using the two different rotation methods. The similarity of these different analyses suggests that the factor pattern shown in Table 12 is quite stable.

Principal components analysis (PCA) was used to reduce the 28 separate reasons for enlistment to a smaller set of more general reasons. The PCA used to produce the pattern of results shown in Table 12 allowed the factors to be correlated with each other. Because several of these factors are rather narrow in scope, such as "Education money" and "Travel," it is possible that further reduction of these factors into an even smaller number of more general factors would be meaningful. To explore this possibility, the correlations between these factors, called "first-order factors," were used as input into another PCA to identify "higher-order" factors that are broader in scope. If our hypothesis that recruits enlist for both economic and non-economic reasons is correct, then the "higher-order" solution should contain separate factors that reflect the economic and self improvement motivations for enlistment.

The correlations between the first-order factors are shown in Table 13 and the results of the "higher-order" factor analysis are shown in Table 14. The factors in this PCA were rotated such that they could be correlated (i.e., an oblique rotation was used). These results indicate that there are three broad factors which underlie the importance ratings of the 28 reasons and the first-order factor analysis. The first higher-order factor includes both the "Self improvement" factor and the "Military service" factor identified in the first-order PCA. The second higher-order factor is an "Economic" factor and it includes the "Economic improvement" factor and the "Education money" factor identified in the first-order PCA. The third higher-order factor includes the "Time out" factor and the "Travel" factor from the first-order PCA. Note, however, that the first-order "Travel" factor also loads on the higher-order factor we have labeled "Self improvement."

Thus the results of both the first-order and the higher-order principal component analyses confirm our hypothesis that there are both economic and non-economic reasons underlying recruits' decisions to enlist. In the first-order PCA, six separate factors are formed that reflect a variety of both economic and self-improvement reasons. Furthermore, even in the higher-order factor analysis when we attempt to form very broad factors, "Self improvement" does not combine with "Economic advancement" which suggests that these are very distinct reasons influencing the enlistment decision.

The results of the higher-order factor analysis are particularly interesting when we compare the results of PCAs conducted on comparable sets of questions from the 1982 and 1983 surveys. The 1983 survey only included 15 multinomial questions about reasons for enlistment, in contrast to the 28 questions included in the 1982 survey. To compare the results from the different years additional PCAs were conducted for the 15 reasons that appeared in both surveys. Oblique and orthogonal rotations produced similar solutions. The factor loadings for these analyses that appear in Table 15 are from the oblique solutions. The pattern of results for the two years are quite similar; four factors were identified for both the 1982 and 1983 data, and three of these factors correspond fairly well with the three higher-order factors identified when the entire set of 28 reasons was used in analyzing the 1983 data.

The first factor presented in Table 15, for both the 1983 and 1982 samples, is the "Self-improvement" factor which includes "Be a soldier," "Service to country," "Physical training," "Prove I can make it," and "Want respect," in addition to "Chance to better myself." The second factor for both years is the "Time Out" factor which includes "Travel" and "Get away from home," as well as "Take time out to decide life plans." The third factor, for both the 1983 and 1982 samples, is the "Economic" factor which includes "Skill training," "Earn more money," and "Unemployment." The fourth factor for the 1983 data is labeled "College Money;" whereas, the fourth factor for the 1982 data is labeled "Escape."

Table 13

factor correlations or rotated factors

<u>Factor</u>	<u>Factor</u>				
	<u>Self Improvement</u>	<u>Economic Advancement</u>	<u>Military Service</u>	<u>Time Out</u>	<u>Travel</u> <u>Education Money</u>
Self Improvement	1.000				
Economic Advancement	0.073	1.000			
Military Service	0.271	0.033	1.000		
Time out	0.085	0.056	0.045	1.000	
Travel	0.313	0.095	0.157	0.208	1.000
Education Money	0.146	0.152	0.040	-0.028	1.000



Table 14

Rotated factor loadings for higher order factor analysis.

Higher Order Factors				
<u>First order Factors</u>	<u>Self Improvement</u>	<u>Economic</u>	<u>Time Out</u>	<u>Shared Variance</u>
Military Service	.777	--	--	.608
Self Improvement	.742	--	--	.619
Economic advance	--	.761	--	.588
Education money	--	.745	--	.777
Time out	--	--	.887	.547
Travel	.457	--	.512	.623
Variance accounted for:	1.649	1.094	1.019	

Table 15

Comparison of factor loadings (oblique rotation) for 1982 and 1983.

1983 Sample (N=5,381)

	Factor				
	I Self <u>Improvement</u>	II Time <u>Out</u>	III <u>Economic</u>	IV College <u>Money</u>	<u>Shared Variance</u>
<u>Reasons for Enlistment</u>					
Be a soldier	0.806	--	--	--	.6412
Service to country	0.751	--	--	--	.5459
Physical training	0.647	--	--	--	.4815
Want respect	0.555	--	--	--	.4451
Chance to better myself	0.536	--	--	0.441	.5205
Time to decide	--	0.686	--	--	.4515
Away from home	--	0.623	--	--	.4537
Escape personal problem	--	0.526	--	-0.395	.4549
Travel	--	0.502	--	--	.3913
Unemployment	--	--	0.735	--	.5628
Earn more money	--	--	0.680	--	.4868
Skill training	--	--	0.519	0.507	.5258
Money for college	--	0.387	--	0.608	.4949
Family tradition	0.272	--	--	-0.474	.3504
Prove myself	0.473	0.265	--	--	.4253
Variance accounted for:	3.046	1.646	1.371	1.170	

1982 Sample (N=2,885)

	Factor				
	I Self <u>Improvement</u>	II Time <u>Out</u>	III <u>Economic</u>	IV <u>Escape</u>	<u>Shared Variance</u>
<u>Reason for enlistment</u>					
Be a soldier	0.797	--	--	--	.6334
Service to country	0.785	--	--	--	.6005
Physical training	0.614	--	--	--	.5021
Want respect	0.586	--	--	--	.4720
Prove myself	0.542	0.264	--	--	.4498
Get away from home	--	0.599	--	--	.4219
Time to decide	--	0.582	--	--	.3868
travel	--	0.523	--	--	.3812
Unemployment	--	--	0.800	--	.6366
Earn more money	--	--	0.699	--	.5051
Escape personal problems	--	0.358	--	0.621	.5497
Skill training	--	--	0.421	-0.570	.5013
Family tradition	0.267	--	--	0.510	.3541
Chance to better myself	0.487	--	--	-0.463	.4950
College money	--	0.481	--	-0.322	.3488
Variance accounted for:	3.071	1.588	1.402	1.179	

The similarity of these results with those of the higher-order PCA on the 1983 data prompted us to conduct one additional set of PCAs. Using the data on the 15 reasons that were rated in both the 1982 and 1983 surveys, we ran another set of PCAs but this time we restricted the number of factors to three. The results of the oblique rotation solutions are shown in Table A-2 in Appendix A. The three factors identified in these analyses are very similar to those identified in the higher-order PCA of the 1983 data.

The results of the PCAs indicate that there are three broad factors underlying the importance ratings of the reasons for enlistment and, that when additional reasons are added to the set it is possible to identify six distinct factors. These six factors include both economic and non-economic reasons that motivate young people to enlist in the Army. The next question we address is whether a particular factor is characteristic of a particular subgroup of the population.

Factor scores were generated for each recruit in order to relate the factors to various demographic variables. For our data, factor scores indicate the degree to which each individual factor explains the variability in each recruits' importance ratings of the reasons for enlistment. The factor scores were generated from the orthogonal PCA (shown in Appendix A) so the factor scores would be independent. These factor scores were used as the dependent variables for a series of analyses of variance (ANOVAs) that used various demographic variables as independent variables. The results of these analyses are summarized in Table 16. The numbers presented in Table 16 are mean factor scores that are interpretable in a relative sense. That is, larger positive numbers indicate that this subgroup of recruits tended to have higher scores on this factor and larger negative numbers indicate that this subgroup of people has lower scores on this factor.

The ANOVA on recruits' factor scores on the "Self improvement" factor indicated that educational background, sex, AFQT category, region of the country, length of enlistment term, and ethnic group all had a significant effect ( $p < .001$ ) on recruits' factor scores for the "Self improvement" factor. Recruits have higher scores on this factor if they have any of the following characteristics: non-high school graduates, female, AFQT categories IIIA and below, are from the southern or western regions of the country, enlisted for a 3-year term, and list their ethnicity as "other."

The ANOVA on recruits' factor scores for the "Economic advancement" factor indicated that AFQT category, region of the country, age at signing the enlistment contract, and term of enlistment had significant effects on factor scores for this factor. Recruits have higher scores on this factor if they have any of the following characteristics: AFQT category IIIB/IV, from the southeastern or midwestern states, were between 19 and 21 when they signed their enlistment contract, and enlisted for a 3-year term.

Table 16

Mean factor scores by demographic variables.

	Factor					
	<u>Self Improvement</u>	<u>Economic Advancement</u>	<u>Military Service</u>	<u>Time Out</u>	<u>Travel</u>	<u>Education Money</u>
<u>Education</u>						
Non-high school grad	13	8	5	8	-16	-38
High school grad	1	-2	-1	-4	7	1
Post-high school	-13	-32	-5	6	-11	28
<u>Sex</u>						
Male	-1	-1	3	3	-2	-3
Female	18	6	-35	-28	20	29
<u>AFQT</u>						
CAT I	-25	-52	-1	5	-5	38
CAT II	-6	-13	-4	-8	-1	42
CAT IIIA	4	0	-2	-6	-3	3
CAT IIIB	7	13	4	8	4	-27
CAT IV	0	30	2	22	1	-28
<u>Region</u>						
Northeast	-2	-11	-11	-4	3	-3
Southeast	5	5	17	-2	-9	-3
Southwest	9	-12	5	0	-6	1
Midwest	-8	13	-8	4	5	-2
West	3	-7	-3	-3	7	13
<u>Age at contracting</u>						
17	3	-13	1	-1	8	2
18	2	2	-7	9	10	-10
19	4	13	-10	-2	10	3
20	4	17	-4	3	-12	10
21	-7	13	3	-5	-24	2
24	-14	2	22	-19	-48	8

Table 16 (continued)

	Factor					
	Self Improvement	Economic Advancement	Military Service	Time Out	Travel	Education Money
<u>Enlistment Term</u>						
2 years	-22	-36	-25	6	17	57
3 years	5	7	-4	2	-2	-5
4 years	-2	-5	10	-5	0	-4
<u>Ethnic Group</u>						
White	-3	-3	3	-3	-1	-2
Black	9	9	-17	7	5	9
Hispanic	4	7	4	14	-5	-5
Other	28	-11	-2	11	5	15
<u>Rural/Urban</u>						
Large city	2	-6	-5	3	-5	8
Large city suburb	0	-1	2	3	6	8
Medium city	6	1	-3	-1	4	5
Medium city suburb	3	6	-8	11	6	2
Small city	-3	0	3	-6	-4	-1
Rural	-3	2	2	-3	-1	-15
Farm	-2	-4	7	-3	6	-8

The ANOVA on factor scores for "Military service" indicated that sex, region of the country, term of enlistment, and ethnic group all had significant effects on the factor scores for this factor. Recruits have higher scores on this factor if they have any of the following characteristics: male, from the southeastern states, enlisted for a 4-year term, and listed their ethnicity as "white," or "hispanic."

The factor scores for the factor we have labeled "Time out" were significantly affected by the following demographic variables: educational background, sex, AFQT category and age at signing contract. Male recruits, non-high school graduates and recruits with some post-high school education, recruits from the I, III B and IV AFQT categories, and 18-year-old recruits tend to have higher factor scores for this factor.

The ANOVA on the factor scores for the "Travel" factor indicated that educational background, sex, region of the country and age at signing contract all had significant effects. Recruits scored higher on this factor if they had any of the following characteristics: high school diploma graduates, female, from the northeastern, midwestern or western states, and age 19 or younger at the time they signed their enlistment contract.

The ANOVA on the factor scores for the "Education money" factor indicated that the following demographic variables had significant effects on the factor scores for this factor: educational background, sex, AFQT category, term of enlistment, and whether the recruit came from a rural or urban area. Recruits had higher scores on this factor if they had any of the following characteristics: post-high school education, female, higher AFQT categories (especially categories I and II), 2-year term of enlistment, and if the recruit came from a medium or large city or a suburb of a medium or large city.

The information in Table 16 can also be used to assess the relative importance of the six different factors for a particular category of individuals. Consider, for example, term of enlistment. Recruits who signed up for a two-year term have large, positive factor scores for the Travel and Education money factors and large negative scores for the Self improvement, Economic improvement, and Military service factors. This suggests that recruits who enlist for two years are motivated to enlist because of travel opportunities and the opportunity to obtain money for their future education. The largest factor score for recruits who signed up for a four-year term is for the Military service factor. This suggests that this group of individuals is strongly motivated by patriotic reasons and a desire to be part of the military service.

## SUMMARY AND CONCLUSIONS

The purpose of this report was to summarize recent findings from a survey administered to new recruits entering the US Army that indicate young people are joining the Army for both economic and non-economic reasons. Our results indicate that there are a variety of reasons underlying a recruit's enlistment decision and that different types of individuals (e.g., high school graduates vs. non-high school graduates, males vs. females, etc.) are motivated to a certain extent by different reasons.

Future research that attempts to explain enlistment motivation should be based on models that consider both economic and non-economic variables. New modeling techniques need to be developed that can directly assess the relative trade-offs between these two types of factors. For example, would prospective enlistees be willing to accept jobs that would provide less educational money for when they leave the service if the jobs offered them challenging opportunities for personal growth and self improvement while they are in the service? Will these trade-offs be strongly affected by the longterm career goals of the enlistee? Although the non-economic factors are less tangible and thus much more difficult to measure than the economic factors, our data suggests that these non-economic factors can be measured and should be included in future models to provide a more complete understanding of enlistment motivation patterns.

#### REFERENCES

- Boesel, D.P., & Richards, J.A. (1982) Enlistment motivation in the All-Volunteer force environment: A review of major surveys. Proceedings of the 24th Annual Conference of the Military Testing Association, 188-193.
- Dale, C., & Gilroy, C. (1984) Determinants of enlistments: A microeconomic time-series view. Armed Forces & Society, 10, 192-210.
- Doering, Z.D., Grissmer, D.W., & Morse, J.S. (1980a) 1979 DoD Survey of Personnel Entering Military Service: Wave 1 user's manual and codebook (Rand Note N-1605-MRAL). Santa Monica, CA: The Rand Corporation.
- Doering, Z.D., Grissmer, D.W., & Morse, J.S. (1980b) 1979 DoD Survey of Personnel Entering Military Service: Wave 2 user's manual and codebook (Rand Note N-1606-MRAL). Santa Monica, CA: The Rand Corporation.
- Elig, T.W. (1983) The 1982 DA Survey of Personnel Entering the Army: Background, user's manual, and codebook (PUTA WP83-3). Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences.
- Elig, T.W., Johnson, R.M., Gade, P.A. & Hertzbach, A. (1984) The Army Enlistment Decision: An overview of ARI Recruit Surveys, 1982 and 1983 (Research Product 1371). Alexandria, VA: Army Research Institute for the Behavioral and Social Sciences.
- Faris, J.H. (1984) Economic and non-economic factors of personnel recruitment and retention in the All Volunteer Force. Armed Forces & Society, 10, 251-275.



Table A-1

Rotated factor loadings from the orthogonal solution

	I Self Improvement	II Military Service	III Economic Advancement	IV Time Out	V Travel	VI Education Money	Shared Variance
Learn to be responsible mature	0.791	--	--	--	--	--	.6489
Become better individual	0.761	--	--	--	--	--	.6262
Become more self reliant	0.750	--	--	--	--	--	.5928
Need for discipline	0.635	--	--	0.327	--	--	.5238
Leadership training	0.576	0.350	--	--	--	--	.4916
Physical training	0.551	0.274	--	--	--	--	.4533
Chance to better myself	0.537	--	--	-0.355	0.258	--	.4838
Retirement benefits	--	0.620	0.390	--	--	--	.5672
Be a soldier	0.433	0.575	--	--	--	--	.6012
Serve my country	0.406	0.529	--	--	--	--	.4991
Get better job	--	--	0.677	--	--	--	.5042
Earn more money	--	--	0.586	--	--	--	.4155
I was unemployed	--	--	0.566	--	--	--	.3945
Obtain skill training	--	--	0.549	--	--	--	.4385
Join old friends	--	--	--	0.680	--	--	.4897
Escape personal problem	--	--	--	0.569	--	--	.3780
Family tradition to serve	--	0.342	--	0.501	--	--	.3750
Get away on my own	--	--	--	--	--	--	.5960
Travel	--	0.263	--	--	0.729	--	.5351
Money for college	--	--	--	--	0.644	--	.7369
Money for votech/business school	--	--	--	--	--	0.849	.6668
Make new friends	0.429	--	--	--	--	0.783	.3822
Shoot guns	--	--	--	--	0.266	--	.4195
Time to decide	--	0.444	--	0.340	0.276	--	.4174
Prove myself	0.459	--	--	0.425	0.366	--	.3825
See what military is like	0.428	--	--	--	0.355	--	.3723
Want respect	0.435	--	--	--	0.294	--	.3689
Fringe benefits	--	0.288	--	--	--	--	.5387
	--	0.496	0.494	--	--	--	
Variance accounted for:	6.013	2.111	1.930	1.484	1.303	1.056	

Table A-2

Factor loadings (oblique rotation, number of factors restricted to three.

1983 Sample (N=5381)

<u>Reason for enlistment</u>	FACTOR			<u>Shared Variance</u>
	I <u>Self Improvement</u>	II <u>Time Out</u>	III <u>Economic</u>	
Be a soldier	0.783	--	--	.6207
Serve my country	0.741	--	--	.5400
Physical training	0.669	--	--	.4801
Chance to better myself	0.549	--	0.438	.5200
Want respect	0.528	0.286	--	.4023
Escape personal problems	--	0.649	-0.259	.4482
Time to decide	--	0.554	--	.3149
Be away from home	--	0.547	--	.3944
Skill training	--	--	0.705	.4918
College money	--	--	0.503	.2588
Prove myself	0.475	0.335	--	.4189
Unemployment	--	0.387	0.256	.2607
Family tradition	--	0.401	-0.328	.3122
Travel	0.316	0.277	--	.2688
Earn more money	--	0.360	0.416	.3305
Variance accounted for	3.046	1.646	1.371	

1982 Sample (N=2885)

<u>Reason for enlistment</u>	FACTOR			<u>Shared Variance</u>
	I <u>Self Improvement</u>	II <u>Time Out</u>	III <u>Economic</u>	
Be a soldier	0.753	--	-0.270	.6029
Serve my country	0.727	--	--	.5336
Physical training	0.680	--	--	.4925
Prove myself	0.579	--	--	.4498
Want respect	0.568	0.273	--	.4456
Chance to better myself	0.565	--	0.366	.4924
Escape personal problem	--	0.743	--	.5449
Skill training	--	--	0.681	.5013
Earn more money	--	0.274	0.544	.3904
Family tradition	--	0.449	-0.285	.3170
Money for college	--	--	0.264	.0715
Unemployment	--	0.264	0.489	.3358
Travel	0.381	--	--	.2405
Be away from home	--	0.494	--	.3375
Time to decide	--	0.498	0.000	.3009
Variance accounted for:	3.071	1.588	1.403	